Abstract

Methods and apparatus for qualitatively or quantitatively determining one or more analytes in matrices such as foods, biological fluids, etc. An embodiment for determination of a single analyte comprises a sample receiving vessel, a first membrane and a reagent-containing well. The prepared sample passes through the first membrane whereby extraneous matter is removed, and a filtrate enters the reagent-containing well to provide a filtrate-reagent admixture from which the analyte may be determined. An embodiment for determination for multiple analytes includes one or more additional membranes in series with the first membrane, each such additional membrane being operative to capture one or more analytes. Each of the additional analytes may then be eluted from the membrane upon which it has been captured, into a separate reagent-containing well to provide eluant-reagent admixture from which each desired analyte may be determined. Formulations for preparation additives are also included. Additionally, there's provided an embodiment of above-described invention for determination of an analyte which is present in a matrix at low (e.g., sub-detectable) levels, wherein the filter of the apparatus is utilized to capture and concentrate the analyte, to provide a filtrate-reagent admixture wherein the analyte is present at detectable concentration.